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ROBERT DIETCH

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June 17, 1983

Mr. H. R. Denton
Director, Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-206
Plan for Managing Plant Retrofit
San Onofre Nuclear Generating Station
Unit 1

Reference: Letter, Robert Dietch, SCE, to H. R. Denton, NRC, dated June 10, 1983

My recent letter to you (see reference) described the actions SCE would be taking with regard to continuation of work on San Onofre Unit 1. Specifically, it indicated SCE would be developing the Plan for Early Return to Power and the Plan for Managing Plant Retrofit to assist in reducing capital expenditures and improve the capacity factor of the unit. These programs have been discussed with members of your staff. The purpose of this letter is to provide more specific documentation on the Plan for Managing Plant Retrofit and to obtain NRR concurrence on the scope and constraints of our program.

A key aspect of the Plan for Managing Plant Retrofit will be the development of an Integrated Living Schedule (ILS). The concept of an ILS has recently been endorsed in the NRC's statement of policy and planning guidance for 1983 and licensees have been encouraged to explore the implementation of such plans as indicated in Generic Letter 83-20 from D. G. Eisenhut to all licensees, dated May 9, 1983.

The scope of the ILS at San Onofre Unit 1 will include all backfits scheduled for implementation at the unit including those with regulatory related origins (within the NRC and other national and state regulatory bodies) and those with internal origin. The recently large extent of backfits at the unit have represented a disproportionally large share of SCE's available capital while at the same time have caused the unit's capacity factor to drop precipitously, putting economic viability into question. By implementing an ILS, SCE will be better able to control and predict its expenditures while increasing the reliability and thus economic capability of the facility.

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The scheduling of projects using the ILS framework will be constrained by such parameters as capital expenditures, outage duration, manpower, procurement and engineering lead times, and others as appropriate. An initial schedule based on these constraints was included in the presentation to NRC management (a copy of the presentation is enclosed for reference). The initial schedule illustrates the number of outages and length of time necessary to implement the list of backfits when the appropriate constraints are used. It should be noted that the initial schedule demonstrated that there were regulatory required backfits with deadlines set by regulation that would not be implemented until after their currently set regulatory dates. Therefore, an essential part of the Plan for Managing Plant Retrofit will be to work with the NRC staff to develop any necessary exemptions. It is SCE's desire to have NRC concurrence on the scope and constraints by mid-July 1983.

Approximately one month after agreement on the scope and constraints, the methodology for the ILS will be developed and submitted. The methodology envisioned for implementation at San Onofre Unit 1 will be similar to that adopted for the Duane Arnold Energy Center except for the basic emphasis on safety, the length of the schedule and the potentially immediate need to develop exemptions and/or renegotiate schedules on certain regulatory related projects. The ILS to be developed will be different from the initial schedule used in presentations to NRC management in that a more rigorous methodology will be used to give higher priority to the projects with the highest safety significance, the process will be agreed upon with the staff and will be auditable.

It is expected that NRC concurrence with the methodology can be obtained by early September 1983. This will allow SCE to submit an amendment, or other implementation mechanism as appropriate, which will codify the methodology and specify the modifications to be implemented prior to startup and during the following refueling outages. SCE will work with the staff to support formal approval of the ILS by year end which will delineate the requirements for continuing use of the ILS and determine the schedule for the return to service of San Onofre Unit 1.

We look forward to working with the staff on this plan. Please contact me if you desire further information.

Very truly yours,

Robert Dietch

Enclosure

cc: J. B. Martin, Regional Administrator, NRC Office of I&E, Region V

Enclosure

PLAN FOR MANAGING PLANT RETROFIT

SAN ONOFRE UNIT 1

INTEGRATED BACKFIT PROGRAM

- MANAGE RESOURCES EFFICIENTLY

  CAPITAL EXPENDITURES

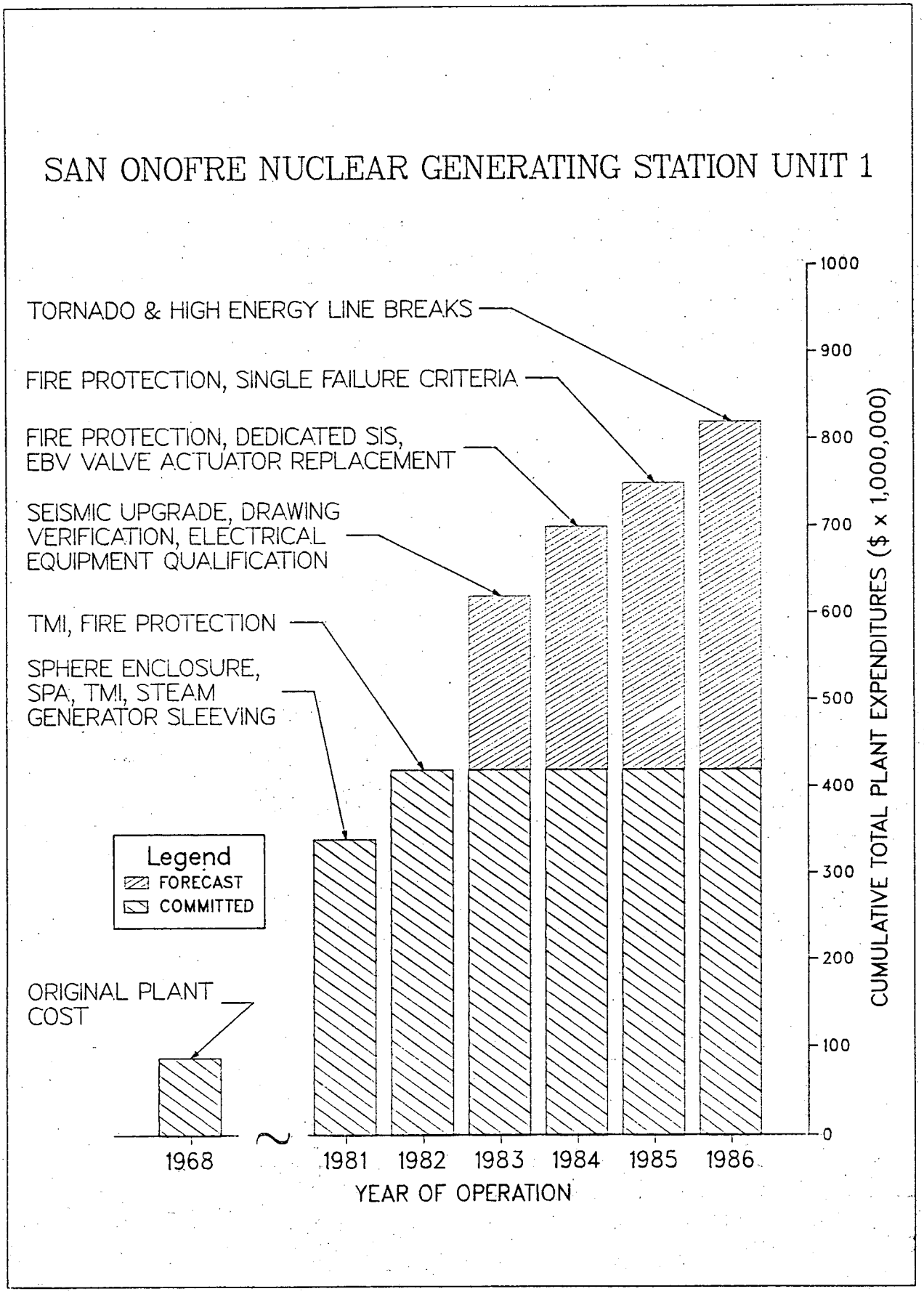
  CAPACITY FACTOR

  MANPOWER

- ACHIEVE STABILITY AND PREDICTABILITY OF PROCESS

- INTEGRATE REGULATORY COMMITMENTS (INCLUDING SEP), PLANT BETTERMENT AND OUTAGE MANAGEMENT

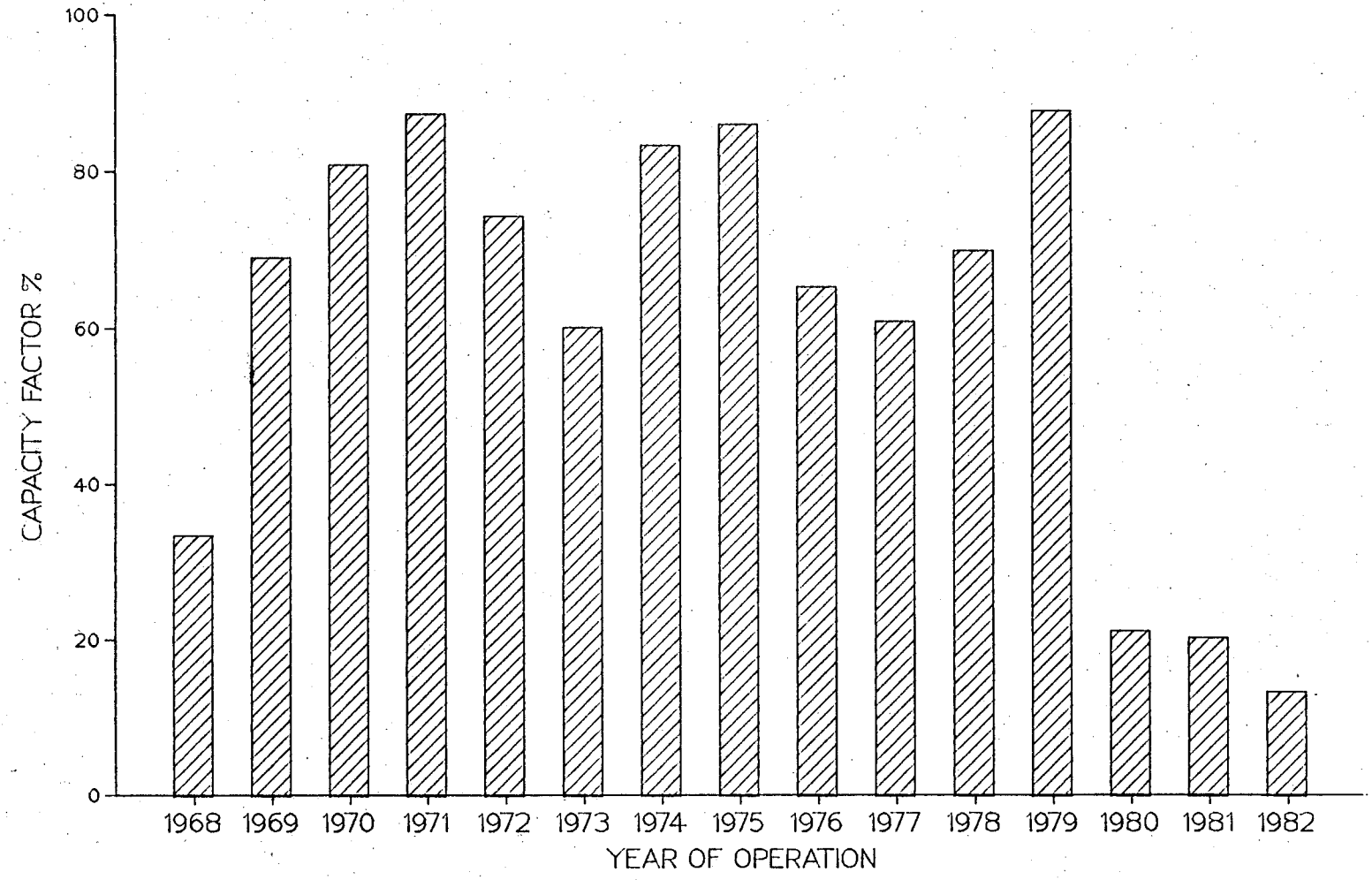
SAN ONOFRE NUCLEAR GENERATING STATION UNIT 1



SCE PROJECT COSTS

	$ X MILLION
EXAMPLE: TYPICAL BACKFIT WORK ORDER	
CONTRACTOR COSTS	$102.2
SCE CONSTRUCTION MANAGEMENT, START-UP, QA, DOCUMENT CONTROL, PROCUREMENT, ACCOUNTING, SYSTEMS AND PROCEDURES, WAREHOUSING AND FIRE WATCHES	45.8
	148.0
SCE STATION LIAISONS, HEALTH PHYSICS, SECURITY AND LICENSING	17.0
BASE WORK ORDER LEVEL COSTS (100%)	165.0
OVERHEADS:	
o DIVISION OVERHEADS:	4.6
OVERHEAD COSTS INCURRED WITHIN THE VARIOUS DIVISIONS AND DEPARTMENTS OF THE COMPANY	
o MISCELLANEOUS CONSTRUCTION EXPENSE: (MCE)	12.8
COSTS FOR SCE ADMINISTRATIVE SERVICES WHICH CANNOT BE READILY IDENTIFIED AGAINST A SPECIFIC PROJECT. INCLUDED IN THESE COSTS ARE: SCE'S CONTRIBUTION TO EMPLOYEES' BENEFITS, UPKEEP OF OFFICE BUILDING, SALARIES OF SCE OFFICERS, ETC.	
o ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION (AFUDC):	24.6
INTEREST PAID BY SCE ON THE MONIES BARROWED OR USED DURING THE PROJECT LIFE PRIOR TO A FACILITY BEING PUT INTO OPERATION	
TOTAL PROJECT COSTS:	207.0

SAN ONOFRE NUCLEAR GENERATING STATION UNIT 1
ANNUAL CAPACITY FACTORS



SAN ONOFRE UNIT 1

OPERATING HISTORY

Year	Capacity Factor(%)	Major Modifications	Investments (million)
68	34	Base Plant	88
69	69		
70	81		
71	88		
72	75		
73	60		
74	84		
75	86	Fences, Alarms, Radiation Monitoring	2
76	66	High Energy Lines (2M), Safety Equipment (2M)	4
77	61	Standby Power (approximately 36M), Sphere Enclosure (apprximately 37M)	73
78	70	Floods (2M), Overpressure (2M), SFA (2M), Misc. (9M)	15
79	88	Site Security	11
80	21	Security Processing	6
81	20	Fire Protection - Phase 1 (18M) Steam Generator (72M), Misc. (50M)	142
82	13	TMI (61M), Fire Protection Phase 2 (7M), Misc. (8M)	76

Shutdown February 27, 1982 for Seismic Backfit - Startup Uncertain

UNDERSTAND TOTALITY OF WORK

- EXISTING REGULATORY COMMITMENTS

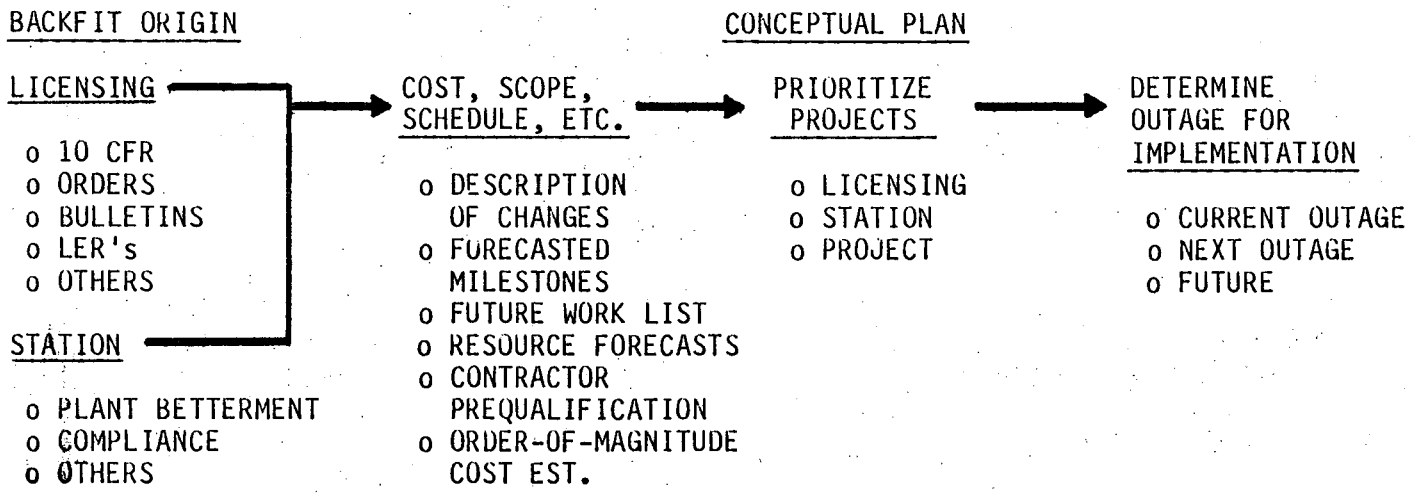
SEISMIC UPGRADE
ENVIRONMENTAL QUALIFICATION
FIRE PROTECTION APPENDIX R
SYSTEMATIC EVALUATION PROGRAM BACKFIT
DEDICATED SAFETY INJECTION AND FEEDWATER SYSTEMS
INSTRUMENTATION SYSTEM FOR DETECTION OF INADEQUATE CORE COOLING
CONTROL ROOM DESIGN REVIEW
SAFETY PARAMETER DISPLAY SYSTEM
REGULATORY GUIDE 1.97 INSTRUMENTATION
AUXILIARY FEEDWATER SYSTEM SAFETY GRADE UPGRADE AND THIRD TRAIN
CONTROL ROOM HABITABILITY, HVAC UPGRADE
POST ACCIDENT SAMPLING SYSTEM OXYGEN AND CHLORIDE MONITORING
PARTICULATE EFFLUENT MONITORING SYSTEM PLATE-OUT CONCERN
HEAVY LOADS LIFT RIGS AND TURBINE DECK SPALLING PROTECTION
SYSTEM VOLTAGE DEGRADATION 4 KV UNDERVOLTAGE RELAYS
RADIOLOGICAL EFFLUENT MONITORING SYSTEMS
PURGING AND VENTING SYSTEM VALVE REPLACEMENT AND DEBRIS SCREEN
PRESSURIZER PORV BLOCK VALVES
ECCS SINGLE FAILURE UPGRADE
DIESEL GENERATOR FANS
SIS ANNUNCIATOR WINDOWS
ISOLATION VALVES FOR STEAM GENERATOR SAMPLE AND BLOWDOWN LINES
CONTAINMENT ISOLATION RELAYS
SIS PUMP SUCTION NOZZLES
G & W (EFCOMATIC) ACTUATORS
REGULATED INSTRUMENT BUSES
NITROGEN SUPPLY FOR PORV'S AND FCV'S 1115 D, E AND F UPGRADE TO SAFETY GRADE
CV 525 AND 527 VALVE SEATS
SEPARATE POWER SUPPLY TO LETDOWN ISOLATION VALVES
INLAND METEOROLOGICAL TOWER
SOLIDIFIED RESIN STORAGE BUILDING AND TRANSPORTATION EQUIPMENT
WASTE GAS DECAY TANK SYSTEM
CORRODED SAFETY RELATED AND NON-SAFETY RELATED PIPING
COMPONENT COOLING WATER HEAT EXCHANGER SERVICEABILITY
SV-99 REPLACE ACTUATION TO RELIABLE CHANNEL
TURBINE LAB DRAINS
CONDENSATE STORAGE TANK FLOODING POTENTIAL
HEALTH PHYSICS BUILDING
REACTOR COOLANT PUMP TRIP

o STATION BETTERMENT

MODIFICATION TO THE 125-VDC SYSTEM
UPGRADE SAFETY RELATED AND NON-SAFETY RELATED POWER SUPPLY
SALTWATER COOLING VALVES POV 1-10
ELECTRICAL POWER BUSES
CHEMICAL AND VOLUME CONTROL SYSTEM VALVES MOV-LCV-1100 B, C & D
STEAM PIPE EROSION
CONTROL ROOM IMPROVEMENT
BATTERY NO. 1
CATHODIC PROTECTION LEADS
UPGRADE BALANCE OF SAFETY RELATED SNUBBERS
REPLACE SIS RECIRCULATION LINE
BORON ANALYZER
PROCESS PH METER
SLUDGE REMOVAL TRAP
INLET PRESSURE GAUGES ON RHR PUMPS
CONTAINMENT SUMP LEVEL CONTROLLER
PERMANENT DOMESTIC WATER LINE TO UNIT 1
DEMINERALIZED WATER CROSS TIE
TELECOMMUNICATIONS
NORTH GUARD TOWER VIDEO
STATION SERVICE TRANSFORMER
SYSTEM DESCRIPTION
BREATHING AIR FOR SPHERE
INSTALL PERMANENT WALKWAY
HALON AWS COMMUNICATIONS ROOM
12 KV CONSTRUCTION POWER SYSTEM
SEQUENCER LOGIC BOARDS
LOCAL ASHCROFT GAUGES
CONTROL ROOM INSTRUMENT RACKS 1-5
FLUX MAPPING SYSTEM
NUISANCE ALARMS BATTERY CHARGER HYDRAZINE LOW FLOW AND CONTAINMENT SUPPLY
SYNCHRO CHECK RELAY PROTECTION
STEAM GENERATOR MANWAY TENSIONER
POWER SUPPLY FOR DECONTAMINATION SYSTEMS - ELECTRO POLISHER
INSTALL RACEWAY IN SPENT FUEL AREA
RADIATION DETECTORS OUTER CIRCLE
TEMPERATURE AVERAGE CIRCUITS
SECONDARY CHEMISTRY MONITORING
GLAND SEAL EXHAUST
SEISMIC MONITORING INSTRUMENTATION
OPERATIONAL RADIATION MONITORING SYSTEM

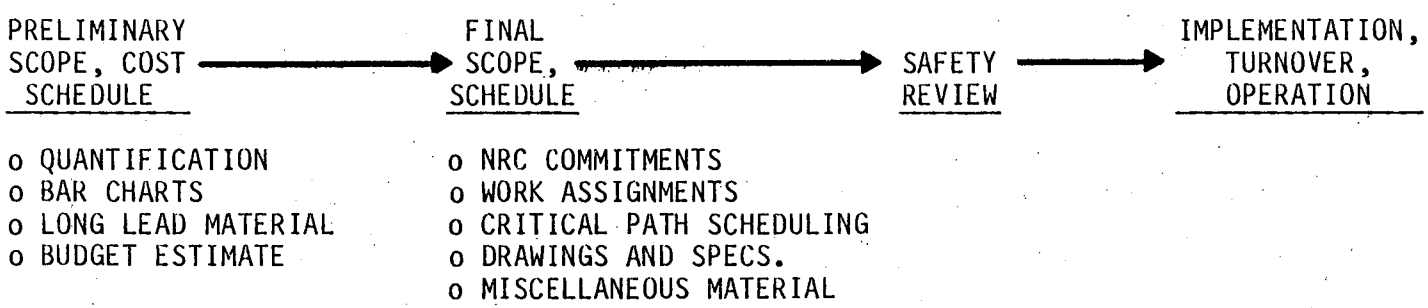
SAN ONOFRE BACKFIT PLANNING PROCESS

SELECTION OF CURRENT OUTAGE PROJECTS



SAN ONOFRE BACKFIT PLANNING PROCESS

IMPLEMENTATION OF CURRENT OUTAGE PROJECTS



INTEGRATED BACKFIT PROGRAM

STATUS

- INITIAL SCHEDULE

  IDENTIFIED PROJECTS (TOTALITY OF WORK)

  SCHEDULE MANAGEMENT
  (18 MONTH CYCLE - 3 MONTH OUTAGE)

  PLANT BETTERMENT

  REGULATORY COMMITMENTS

  INTEGRATION

  INITIAL SCHEDULE

- PRESENTATIONS TO NRC MANAGEMENT

- SAFETY SIGNIFICANCE SCHEDULE

  EMPHASIZE SAFETY SIGNIFICANCE

INITIAL SCHEDULE

LONG TERM PLANT MODIFICATION UPGRADE SCHEDULE

OUTAGE SCHEDULE

CYCLE IX	01/01/85 - 03/31/85
CYCLE X	10/01/86 - 12/31/86
CYCLE XI	07/01/88 - 09/30/88
CYCLE XII	04/01/90 - 06/30/90

INITIAL SCHEDULE

CYCLE IX REFUELING OUTAGE MODIFICATIONS

- COMPLETE SEISMIC UPGRADE
- PARTIAL ENVIRONMENTAL QUALIFICATION
- PARTIAL SYSTEMATIC EVALUATION PROGRAM
- SYSTEM VOLTAGE DEGRADATION 4 KV UNDERVOLTAGE RELAYS
- PRESSURIZER PORV BLOCK VALVES
- DIESEL GENERATOR FANS
- PARTICULATE EFFLUENT MONITORING SYSTEM PLATE-OUT CONCERN
- ISOLATION VALVES FOR STEAM GENERATOR SAMPLE AND BLOWDOWN LINES
- AUXILIARY FEEDWATER SYSTEM SAFETY GRADE UPGRADE
- CATHODIC PROTECTION LEADS
- CONTAINMENT ISOLATION RELAYS
- SIS ANNUNCIATOR WINDOWS

INITIAL SCHEDULE

CYCLE X REFUELING OUTAGE MODIFICATIONS

- PARTIAL FIRE PROTECTION APPENDIX R
- PARTIAL SYSTEMATIC EVALUATION PROGRAM
- COMPLETE ENVIRONMENTAL QUALIFICATION
- POST ACCIDENT SAMPLING SYSTEM OXYGEN AND CHLORIDE MONITORING
- CONTROL ROOM HABITABILITY HVAC UPGRADE
- ECCS SINGLE FAILURE UPGRADE
- DEDICATED SIS AND FEEDWATER SYSTEMS
- SIS PUMP SUCTION NOZZLES

INITIAL SCHEDULE

CYCLE XI REFUELING OUTAGE MODIFICATIONS

- COMPLETE FIRE PROTECTION APPENDIX R
- PARTIAL SYSTEMATIC EVALUATION PROGRAM
- PARTIAL INSTRUMENTATION SYSTEM FOR DETECTION OF INADEQUATE CORE COOLING
- PARTIAL REQUIREMENTS FOR EMERGENCY RESPONSE CAPABILITY
- NITROGEN SUPPLY FOR PORV'S AND FCV'S 1115 D, E & F UPGRADE TO SAFETY GRADE
- G & W (EFCOMATIC) ACTUATORS
- UPGRADE BALANCE OF SAFETY RELATED SNUBBERS
- REGULATED INSTRUMENT BUSES

INITIAL SCHEDULE

CYCLE XII REFUELING OUTAGE MODIFICATIONS

- PARTIAL SYSTEMATIC EVALUATION PROGRAM
- PARTIAL REQUIREMENTS FOR EMERGENCY RESPONSE CAPABILITY
- PARTIAL INSTRUMENTATION SYSTEM FOR DETECTION OF INADEQUATE CORE COOLING
- RADIOLOGICAL EFFLUENT MONITORING SYSTEMS
- HEAVY LOADS LIFT RIGS AND TURBINE DECK SPALLING PROTECTION
- REPLACE SIS RECIRCULATION LINE
- CV 525 AND 527 VALVE SEATS

INITIAL SCHEDULE
MODIFICATIONS IF NOT COMPLETED BY CYCLE XII REFUELING
OUTAGE WOULD BE SCHEDULED AFTER THAT

- COMPLETE SYSTEMATIC EVALUATION PROGRAM
- COMPLETE INSTRUMENTATION SYSTEM FOR DETECTION OF INADEQUATE CORE COOLING
- COMPLETE REQUIREMENTS FOR EMERGENCY RESPONSE CAPABILITY
- INLAND METEOROLOGICAL TOWER
- MODIFICATION TO THE 125-VDC SYSTEM
- CORRODED SAFETY RELEATED AND NON-SAFETY RELATED PIPING
- BATTERY NO. 1
- SALTWATER COOLING VALVES POV 1-10
- BORON ANALYZER
- PROCESS PH METER
- SLUDGE REMOVAL TRAP
- INLET PRESSURE GAUGES ON RHR PUMPS
- CONTAINMENT SUMP LEVEL CONTROLLER
- STEAM PIPE EROSION
- PERMANENT DOMESTIC WATER LINE TO UNIT 1
- DEMINERALIZED WATER CROSS TIE
- TELECOMMUNICATIONS
- NORTH GUARD TOWER VIDEO
- STATION SERVICE TRANSFORMER
- SYSTEM DESCRIPTION
- BREATHING AIR FOR SPHERE
- ELECTRICAL POWER BUSES
- INSTALL PERMANENT WALKWAY
- CONTROL ROOM IMPROVEMENT
- HALON AWS COMMUNICATION ROOM
- 12 KV CONSTRUCTION POWER SYSTEM
- SEPARATE POWER SUPPLY TO LETDOWN ISOLATION VALVES
- UPGRADE SAFETY RELATED AND NON-SAFETY RELATED POWER SUPPLY
- SEQUENCER LOGIC BOARDS
- LOCAL ASHCROFT GAUGES
- SOLIDIFIED RESINS STORAGE BUILDING AND TRANSPORTATION EQUIPMENT
- WASTE GAS DECAY TANK SYSTEM
- COMPONENT COOLING WATER HEAT EXCHANGER SERVICEABILITY
- SV-99 REPLACE ACTUATION TO RELIABLE CHANNEL
- TURBINE LAB DRAINS
- CONDENSATE STORAGE TANK FLOODING POTENTIAL
- HEALTH PHYSICS BUILDING
- CHEMICAL AND VOLUME CONTROL SYSTEM VALVES MOV-LCV 1100B, C AND D
- CONTROL ROOM INSTRUMENT RACKS 1-5
- FLUX MAPPING SYSTEM
- NUISANCE ALARMS BATTERY CHARGER, HYDRAZINE LOW FLOW AND CONTAINMENT SUPPLY
- SYNCHRO CHECK RELAY PROTECTION
- STEAM GENERATOR MANWAY TENSIONER
- POWER SUPPLY FOR DECONTAMINATION SYSTEM - ELECTRO POLISHER
- INSTALL RACEWAY IN SPENT FUEL AREA
- RADIATION DETECTION OUTER CIRCLE
- TEMPERATURE AVERAGE CIRCUITS
- SECONDARY CHEMISTRY MONITORING
- GLAND SEAL EXHAUST
- SEISMIC MONITORING INSTRUMENTATION

SAFETY BASED INTEGRATED SCHEDULE

INPUTS

- O SAFETY SIGNIFICANCE
- O CONSTRAINTS ON IMPLEMENTATION
- O 10% PLANT BETTERMENT
- O JUSTIFICATION FOR DEFERRAL
- O INTEGRATION

INTEGRATED SCHEDULE

SAFETY SIGNIFICANCE

PARAMETERS

O SYSTEM IMPROVEMENT

- IMPACT ON RELIABILITY
- IMPACT ON FAILURE MODES

O SYSTEM IMPORTANCE

- CRITICAL FUNCTIONS
- DOMINANT SEQUENCES

METHODOLOGY

O RELIABILITY ANALYSIS

- DATA FROM PRIOR PRA'S

O DETERMINISTIC ANALYSIS

O INSIGHTS FROM RELATED PRA'S

INTEGRATED SCHEDULE

CONSTRAINTS ON IMPLEMENTATION

- SCHEDULAR CONSTRAINTS
- OUTAGE DURATION
- MANPOWER CAPABILITY
- REGULATORY COMMITMENTS
- CAPITAL EXPENDITURES
- OTHERS

INTEGRATED SCHEDULE

JUSTIFICATION FOR DEFERRAL

- SAFETY PLATEAU ACHIEVED
- ALTERNATIVES AVAILABLE
- COMPENSATING MEASURES
- OVERALL SAFETY SIGNIFICANCE

INTEGRATED SCHEDULE

UPDATING

- INTEGRATION OF NEW REGULATORY REQUIREMENTS
- FIRM SCHEDULE

  CHANGE IN OUTAGE DOES NOT AFFECT SCHEDULE
- OPTIMIZATION PROCESS

  IMPROVED SAFETY PRIORITIZATION
- NRC APPROVAL

INTEGRATED SCHEDULE

CONCLUSION

- NECESSARY FOR STABILITY AND PREDICTABILITY
- EMPHASIZES SAFETY SIGNIFICANCE
- REQUIRES NRC ENDORSEMENT

INTEGRATED SCHEDULE IMPLEMENTATION PLAN

ACTION	APPROXIMATE DATE
SCE SUBMIT LETTER OF INTENT FOR INTEGRATED SCHEDULE INCLUDING DETAILS ASSOCIATED WITH LEVEL OF WORK	JUNE 10, 1983
NRC CONCURRANCE WITH LEVEL OF WORK	JUNE 26, 1983
SCE SUBMIT SAFETY BASED INTEGRATED SCHEDULE METHODOLOGY	JULY 29, 1983
NRC CONCURRANCE WITH SAFETY BASED INTEGRATED SCHEDULE METHODOLOGY	AUGUST 26, 1983
SCE SUBMIT AMENDMENT APPLICATION WITH SAFETY BASED INTEGRATED SCHEDULE	NOVEMBER 15, 1983
NRC ISSUE AMENDMENT TO OPERATING LICENSE IMPLEMENT SAFETY BASED INTEGRATED SCHEDULE	DECEMBER 31, 1983